

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
12 June 2003 (12.06.2003)

PCT

(10) International Publication Number  
**WO 03/048882 A2**

(51) International Patent Classification<sup>7</sup>: **G06F**

(21) International Application Number: PCT/KR02/02257

(22) International Filing Date:  
30 November 2002 (30.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2001-0075638 1 December 2001 (01.12.2001) KR

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— *without international search report and to be republished upon receipt of that report*

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: PAYMENT APPARATUS AND METHOD USING TRANSFER CARD

(57) Abstract: The present invention relates generally to a payment apparatus and method using a transfer card, in which a young person or person ineligible to be issued with a credit card is provided with the transfer card linked to a credit card owned by his guardian or an alternative payer and designed to perform payment so that he can use a certain amount of money within the credit limit of the credit card of the guardian or alternative payer, thereby allowing the persons to be capable of smoothly using a credit card and allowing alternative payment for the use of the transfer card in a deferred or an advance payment manner. Accordingly, the payment apparatus and method can minimize economic losses caused by imprudent use of credit cards by the persons, and prevent various problems due to the use of credit cards by such persons.

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## PAYMENT APPARATUS AND METHOD USING TRANSFER CARD

Technical Field

The present invention relates generally to a payment apparatus and method using a transfer card, and more particularly to a payment apparatus and method using a transfer card, in which a young person or person ineligible to be issued with a credit card is provided with the transfer card linked to a credit card owned by his guardian or an alternative payer and designed to perform payment so that he can use a certain amount of money within the credit limit of the credit card of the guardian or alternative payer, thereby allowing the young person or ineligible person to be capable of smoothly using a credit card.

Background Art

Recently, with the generalization and popularization of the use of credit cards, most people use credit cards to purchase commodities or be provided with various services, so the use of the credit cards is increased. Nevertheless, people who cannot satisfy requirements for the issue of the credit cards suffer many inconveniences and cannot obtain various benefits of using the use of the credit cards.

That is, since persons of ages ineligible to be issued with credit cards, for example, young persons under eighteen years old, students who have low debt repayment capacities, or the like, cannot be issued with the credit cards, they must suffer various inconveniences of carrying and using cash and so do not receive various benefits which they can enjoy in the case of using the credit cards.

Further, when guardians of such young persons or persons having low debt repayment capacities arbitrarily assign authorities of their credit cards to the young persons or other persons having low debt repayment capacities, there may occur a problem that economic losses are generated due to the imprudent use of credit cards by the young persons or persons having low debt repayment capacities.

Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a payment apparatus and method using a transfer card, which assigns a  
5 certain amount of money within the credit limit of a credit card owned by a guardian or an alternative payer of a person ineligible to be issued with a credit card to the transfer card that is linked to the credit card of the guardian or alternative payer previously issued and designed to perform payment within a preset certain credit limit, thereby allowing alternative payment for the use of the  
10 transfer card in a deferred or an advance payment manner.

Accordingly, the payment apparatus and method using a transfer card of the present invention can minimize economic losses caused by imprudent use of credit cards by young persons having difficulties in being issued with the credit cards or the like, and prevent various problems due to the use of credit cards by such  
15 persons.

In order to accomplish the above object, the present invention provides a payment apparatus using a transfer card comprising: a transfer card for previously storing personal information and alternative payment limit information of a user of the transfer card and outputting data on the use of the transfer card; a card reader  
20 for reading the data outputted from the transfer card, providing information on the purchasing of a commodity and outputting commodity purchase information; a personal communication means for outputting data required to allow the transfer card user to purchase a commodity by the entering of a transfer card number and a secret number, and receiving commodity purchase information on the use of the  
25 transfer card via email and displaying the commodity purchase information to allow the transfer card user to see the information; an alternative payer communication means for presetting a certain amount of money so as to allow the transfer card user to purchase the commodity using any of the transfer card and the transfer card number and the secret number through the personal communication

means, and outputting corresponding data; a card company server for receiving the data outputted from the alternative payer communication means and outputting the alternative payment limit information on the purchase of the commodity using the transfer card or the personal communication means; an electronic commerce site  
5 server for receiving the data outputted from the personal communication means, providing information on the purchasing of the commodity to the transfer card user, and outputting commodity purchase information; a financial settlement system for receiving the commodity purchase information outputted from any of the card reader or the electronic commerce site server to process personal credit  
10 conditions according to the use of the transfer card, comparing commodity purchase price information on the use of the transfer card with the alternative payment limit information outputted from the card company server, and outputting a control signal corresponding to compared result; a Web server for receiving the data outputted from the card reader, the personal communication means and the  
15 alternative payer communication means and the control signal outputted from the financial settlement system, and outputting a control signal corresponding to the received data and signal; a member database server for receiving the control signal outputted from the Web server, storing the personal information of both the transfer card user and his alternative payer and authentication information on the  
20 use of the transfer card in response to the control signal, and outputting a control signal corresponding to the stored information; and a mail server for receiving the control signal outputted from the member database server and outputting the commodity purchase information via email through the personal communication means in response to the control signal so as to allow the transfer card user to see  
25 the commodity purchase information on the use of the transfer card of the transfer card user.

In order to accomplish the above object, the present invention provides a payment method using a transfer card comprising the steps of: a) determining, by a financial settlement system, whether a user of the transfer card purchases a  
30 commodity using the transfer card; b) receiving alternative payment limit information outputted from a card company server and determining whether a first

commodity purchase price is less than or equal to an alternative payment limit by comparing first commodity purchase price information with the alternative payment limit information by the financial settlement system, if the transfer card user purchases a commodity using the transfer card; c) performing first authentication for credit conditions of the transfer card user and outputting a control signal corresponding to authenticated result by the financial settlement system, if the first commodity purchase price is less than or equal to the alternative payment limit at step b); d) receiving the control signal from the financial settlement system and outputting a first control signal corresponding to the control signal by a Web server; and e) receiving the first control signal outputted from the Web server, storing personal information and commodity purchase information on the use of the transfer card of the transfer card user in response to the first control signal by a member database server.

#### Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram of a payment apparatus using a transfer card according to a preferred embodiment of the present invention; and

Fig. 2 is a flowchart of a payment method using a transfer card according to a preferred embodiment of the present invention.

#### Best Mode for Carrying Out the Invention

Reference now should be made to the drawings, in which the same reference numerals are used throughout the different drawings to designate the same or similar components.

Hereinafter, a payment apparatus and method using a transfer card according to embodiments of the present invention will be described in detail with

reference to the attached drawings.

Fig. 1 is a block diagram of a payment apparatus using a transfer card according to a preferred embodiment of the present invention, and Fig. 2 is a flowchart of a payment method using a transfer card according to a preferred embodiment of the present invention.

As shown in FIG. 1, the payment apparatus of the present invention includes a transfer card 100, a card reader 200, a personal communication means 300, an alternative payer communication means 400, a card company server 500, an electronic commerce site server 600, a financial settlement system 700, a Web server 800, a member database server 900, and a mail server 1000. The transfer card 100 previously stores personal information and alternative payment limit information of a user of the transfer card 100, and outputs data on the use of the transfer card 100.

Further, the card reader 200 reads the data outputted from the transfer card 100, provides information on the purchasing of a commodity and outputs commodity purchase information. Further, the personal communication means 300 outputs data required to allow the transfer card user to purchase a commodity by the entering of a transfer card number and a secret number, receives commodity purchase information on use of the transfer card 100 via email and displays this information to allow the transfer card user to see this information.

Further, the alternative payer communication means 400 presets a certain amount of money so as to allow the transfer card user to purchase the commodity using the transfer card 100, or using the transfer card number and the secret number through the personal communication means 300, and outputs corresponding data.

Further, the card company server 500 receives the data outputted from the alternative payer communication means 400, and outputs the alternative payment limit information on the purchase of the commodity using the transfer card 100 or the personal communication means 300.

Further, the electronic commerce site server 600 receives the data outputted from the personal communication means 300 and provides information on the

purchasing of the commodity to the transfer card user. Additionally, the electronic commerce site server 900 outputs commodity purchase information.

Further, the financial settlement system 700 receives the commodity purchase information outputted from the card reader 200 or the electronic commerce site server 600 to process personal credit conditions according to the use of the transfer card 100. Additionally, the financial settlement system 700 compares commodity purchase price information on the use of the transfer card 100 with the alternative payment limit information outputted from the card company server 500, and outputs a control signal corresponding to the compared result.

Further, the Web server 800 receives the data outputted from the card reader 200, the personal communication means 300 and the alternative payer communication means 400 and the control signal outputted from the financial settlement system 700, and outputs a control signal corresponding to the received data and signal.

Further, the member database server 900 receives the control signal outputted from the Web server 800, stores the personal information of both the transfer card user and his alternative payer and authentication information on the use of the transfer card 100 in response to the control signal, and outputs a control signal corresponding to the stored information.

The mail server 1000 receives the control signal outputted from the member database server 900 and outputs the commodity purchase information via email through the personal communication means 300 in response to the control signal so as to allow the transfer card user to see the commodity purchase information on the use of the transfer card 100 of the transfer card user.

Hereinafter, the operation of the payment apparatus using a transfer card, which has the above-described construction, is described in detail. When a transfer card user purchases a commodity using the transfer card 100, the card reader 200 reads the personal information and alternative payment limit information of the transfer card user stored in the transfer card 100, and provides information on the purchasing of the commodity.

The financial settlement system 700 receives the commodity purchase information outputted from the card reader 200, processes credit conditions according to the use of the transfer card 100, authenticates the credit conditions of the transfer card user, and additionally outputs a control signal corresponding to the authenticated results. In this case, the card company server 500 outputs the alternative payment limit information to the financial settlement system 700 such that the transfer card user can pay a commodity purchase price using the transfer card 100.

At this time, in order to allow the financial settlement system 700 to receive the alternative payment limit information from the card company server 500, the alternative payer communication means 400 presets a certain amount of money to be used for the purchase of the commodity, and then outputs data corresponding to the presetting of money to the card company server 500 when the transfer card user purchases the commodity using the transfer card 100.

That is, in order for a young person ineligible to be issued with credit cards, a university student/graduate student or the like to smoothly use credit cards, the present invention presets a certain amount of money from a credit card owned by his guardian or an alternative payer to the transfer card 100, and pays a commodity purchase price within a credit limit of the credit card of the guardian or alternative payer.

Further, if the transfer card user desires to access an electronic commerce site and purchase the commodity by using his transfer card number and secret number through his personal communication means 300 without using the transfer card 100 as described above, the personal communication means 300 outputs corresponding data so as to allow the transfer card user to purchase the commodity by the entering of the transfer card number and the secret number.

Accordingly, the electronic commerce site server 600 receives the data outputted from the personal communication means 300, provides information on the purchasing the commodity to the transfer card user, and outputs commodity purchase information. The financial settlement system 700 receives the commodity purchase information outputted from the electronic commerce site server 600 to



process credit conditions according to the use of the transfer card number and the secret number, authenticates the credit conditions, and additionally outputs a control signal corresponding to the authenticated result.

5       At this time, the financial settlement system 700 receives the alternative payment limit information outputted from the alternative payer communication means 400 through the card company server 500 and authenticates credit conditions according to the purchase of the commodity through the personal communication means 300 of the transfer card user in the same manner as the transfer card user purchases the commodity using the transfer card 100.

10       Further, the Web server 800 receives the data outputted from the card reader 200, the personal communication means 300 and the alternative payer communication means 400 and the control signal outputted from the financial settlement system 700, and outputs a control signal corresponding to the received data and signal. The member database server 900 receives the control signal  
15       outputted from the Web server 800, stores the personal information of both the transfer card user and the alternative payer and the authentication information on the use of the transfer card in response to the control signal, and additionally outputs a control signal corresponding to the stored information.

20       For example, if the transfer card user purchases the commodity using the transfer card 100, a short message server (not shown) receives the control signal outputted from the member database server 900 and outputs text information corresponding to the commodity purchase information through a mobile communication terminal (not shown) owned by the transfer card user using a mobile communication system (not shown) in response to the control signal so as  
25       to allow the transfer card user to see the commodity purchase information of the commodity purchased using the transfer card 100.

30       Further, if the transfer card user purchases the commodity using the transfer card number and the secret number through the personal communication means 300, the mail server 1000 receives the control signal outputted from the member database server 900 and outputs the commodity purchase information via email through the personal communication means 300 in response to the control signal

so as to allow the transfer card user to see the commodity purchase information of the commodity purchased through the personal communication means 300.

Hereinafter, a payment method using a transfer card is described in detail with reference to Fig. 2.

5       The financial settlement system 700 determines whether the transfer card user purchases a commodity using the transfer card 100 at step S100.

      If it is determined that the transfer card user purchases the commodity using the transfer card 100 at step S100, the financial settlement system 700 receives alternative payment limit information outputted from the card company server 500, and determines whether a first commodity purchase price is less than or equal to an alternative payment limit by comparing first commodity purchase price information with the alternative payment limit information at step S200.

      If it is determined that the first commodity purchase price is less than or equal to the alternative payment limit at step S200, the financial settlement system 15 700 authenticates credit conditions of the transfer card user, and outputs a control signal corresponding to the authenticated result at step S300.

      The Web server 800 receives the control signal outputted from the financial settlement system 700 and outputs a first control signal corresponding to the received control signal at step S400. The member database server 900 receives 20 the first control signal outputted from the Web server 800, stores personal information and commodity purchase information on the use of the transfer card 100 of the transfer card user in response to the first control signal, and additionally outputs a control signal corresponding to the stored information at step S500.

      Further, if the transfer card user requests to see the commodity purchase information on the mobile communication terminal of the transfer card user by 25 selection, the short message server receives the control signal outputted from the member database server 900 and outputs text information corresponding to the commodity purchase information in response to the control signal.

      Meanwhile, if it is determined that the transfer card user does not purchase 30 the commodity using the transfer card 100 at step S100, the financial settlement system 700 determines whether the transfer card user purchases a commodity

using a transfer card number and a secret number through the personal communication means 300 at step S110.

5 If it is determined that the transfer card user does not purchase the commodity using the transfer card number and the secret number through the personal communication means 300, this process ends. Further, if it is determined that the transfer card user purchases the commodity using the transfer card number and the secret number through the personal communication means 300, the financial settlement system 700 receives alternative payment limit information outputted from the card company server 500, and determines whether  
10 a second commodity purchase price is less than or equal to the alternative payment limit by comparing second commodity purchase price information with the alternative payment limit information at step S120.

If it is determined that the second commodity purchase price is less than or equal to the alternative payment limit at step S120, the financial settlement system  
15 700 authenticates credit conditions of the transfer card user, and outputs a control signal corresponding to the authenticated result at step S130. The Web server 800 receives the control signal outputted from the financial settlement system 700 and outputs a second control signal corresponding to the received control signal at step S140.

20 The member database server 900 receives the second control signal outputted from the Web server 800, receives and stores both personal information and commodity purchase information on the use of the transfer card number and the secret number through the personal communication means 300 of the transfer card user in response to the second control signal, and outputs a third control signal  
25 corresponding to the stored information at step S150. The mail server 1000 receives the third control signal outputted from the member database server 900 and outputs a first email in response to the third control signal so as to allow the transfer card user to see the commodity purchase information through the personal communication means 300 at step S160.

30 Meanwhile, if it is determined that the first commodity purchase price is greater than the alternative payment limit at step S200, the financial settlement

system 700 outputs a fourth control signal corresponding to the compared results at step S210. Accordingly, the member database server 900 receives the fourth control signal outputted from the financial settlement system 700 through the Web server 800, stores information on a fact that the first commodity purchase price exceeds the alternative payment limit in response to the fourth control signal at step S220.

On the other hand, if it is determined that the second commodity purchase price is greater than the alternative payment limit at step S120, the financial settlement system 700 outputs a fifth control signal corresponding to the compared results at step S121.

The member database server 900 receives the fifth control signal outputted from the financial settlement system 700 through the Web server 800, stores information on a fact that the second commodity purchase price exceeds the alternative payment limit in response to the fifth control signal, and outputs an sixth control signal corresponding to the stored information at step S122. The mail server 1000 receives the sixth control signal outputted from the member database server 900, and outputs a second email in response to the sixth control signal so as to allow the transfer card user to see the information on the fact that the second commodity purchase price exceeds the alternative payment limit when the transfer card user purchases the commodity through the personal communication means 300 at step S123.

#### Industrial Applicability

As described above, the present invention provides a payment apparatus and method using a transfer card, which assigns a certain amount of money within the credit limit of a credit card owned by a guardian or an alternative payer of a person ineligible to be issued with a credit card to the transfer card, thereby allowing alternative payment for the use of the transfer card in a deferred or an advance payment manner.

Accordingly, the payment apparatus and method using a transfer card can

minimize economic losses caused by imprudent use of credit cards by young persons having difficulties in being issued with the credit cards or the like, prevent various problems due to the use of credit cards by such persons, reduce children's inconveniences of carrying and using cash by giving the children transfer cards in  
5 which a certain amount of money is previously assigned, and provide various benefits of using the transfer card.

Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing  
10 from the scope and spirit of the invention as disclosed in the accompanying claims.

Claims

1. A payment apparatus using a transfer card, comprising:

a transfer card for previously storing personal information and alternative payment limit information of a user of the transfer card and outputting data on the use of the transfer card;

a card reader for reading the data outputted from the transfer card, providing information on the purchasing of a commodity and outputting commodity purchase information;

a personal communication means for outputting data required to allow the transfer card user to purchase a commodity by the entering of a transfer card number and a secret number, and receiving commodity purchase information on the use of the transfer card via email and displaying the commodity purchase information to allow the transfer card user to see the information;

an alternative payer communication means for presetting a certain amount of money so as to allow the transfer card user to purchase the commodity using any of the transfer card and the transfer card number and the secret number through the personal communication means, and outputting corresponding data;

a card company server for receiving the data outputted from the alternative payer communication means and outputting the alternative payment limit information on the purchase of the commodity using the transfer card or the personal communication means;

an electronic commerce site server for receiving the data outputted from the personal communication means, providing information on the purchasing of the commodity to the transfer card user, and outputting commodity purchase information;

a financial settlement system for receiving the commodity purchase information outputted from any of the card reader or the electronic commerce site server to process personal credit conditions according to the use of the transfer card, comparing commodity purchase price information on the use of the transfer card with the alternative payment limit information outputted from the card

company server, and outputting a control signal corresponding to compared result;

a Web server for receiving the data outputted from the card reader, the personal communication means and the alternative payer communication means and the control signal outputted from the financial settlement system, and  
5 outputting a control signal corresponding to the received data and signal;

a member database server for receiving the control signal outputted from the Web server, storing the personal information of both the transfer card user and his alternative payer and authentication information on the use of the transfer card in response to the control signal, and outputting a control signal corresponding to  
10 the stored information; and

a mail server for receiving the control signal outputted from the member database server and outputting the commodity purchase information via email through the personal communication means in response to the control signal so as to allow the transfer card user to see the commodity purchase information on the  
15 use of the transfer card of the transfer card user.

2. The payment apparatus using a transfer card according to claim 1, wherein the commodity purchase information on the use of the transfer card of the transfer card user can be provided to a mobile communication terminal of the transfer card user in text message information by selection of the transfer card user.

20 3. A payment method using a transfer card, comprising the steps of:

a) determining, by a financial settlement system, whether a user of the transfer card purchases a commodity using the transfer card;

b) receiving alternative payment limit information outputted from a card company server and determining whether a first commodity purchase price is less  
25 than or equal to an alternative payment limit by comparing first commodity purchase price information with the alternative payment limit information by the financial settlement system, if the transfer card user purchases a commodity using the transfer card;

c) performing first authentication for credit conditions of the transfer card

user and outputting a control signal corresponding to authenticated result by the financial settlement system, if the first commodity purchase price is less than or equal to the alternative payment limit at step b);

5 d) receiving the control signal from the financial settlement system and outputting a first control signal corresponding to the control signal by a Web server; and

e) receiving the first control signal outputted from the Web server, storing personal information and commodity purchase information on the use of the transfer card of the transfer card user in response to the first control signal by a member database server.

10

4. The payment method using a transfer card according to claim 3, further comprising the steps of:

f) determining, by the financial settlement system, whether the transfer card user purchases a commodity using a transfer card number and a secret number through a personal communication means, if the transfer card user does not purchase a commodity using the transfer card at step a);

15

g) ending the alternative payment method, if the transfer card user does not purchase the commodity using the transfer card number and the secret number through the personal communication means, and receiving the alternative the payment limit information outputted from the card company server and determining whether a second commodity purchase price is less than or equal to the alternative payment limit by comparing second commodity purchase price information with the alternative payment limit information by the financial settlement system, if the transfer card user purchases the commodity using the transfer card number and the secret number through the personal communication means;

20

25

h) performing second authentication for credit conditions of the transfer card user and outputting a control signal corresponding to authenticated result by the financial settlement system, if the second commodity purchase price is less than or equal to the alternative payment limit at step g);

30



i) receiving the control signal from the financial settlement system and outputting a second control signal corresponding to the control signal by the Web server;

5 j) receiving the second control signal outputted from the Web server, receiving and storing personal information and commodity purchase information on the use of the transfer card number and the secret number through the personal communication means of the transfer card user in response to the second control signal and outputting a third control signal corresponding to the stored information by the member database server; and

10 k) receiving the third control signal outputted from the member database server and outputting a first email in response to the third control signal by a mail server so as to allow the transfer card user to see the commodity purchase information through the personal communication means.

5. The payment method using a transfer card according to claim 3, further comprising the steps of:

l) outputting a fourth control signal by the financial settlement system, if the first commodity purchase price is greater than the alternative payment limit at step b); and

20 m) receiving the fourth control signal outputted from the financial settlement system through the Web server, storing information on a fact that the first commodity purchase price exceeds the alternative payment limit by the member database server.

6. The payment method using a transfer card according to claim 4, further comprising the steps of:

25 n) outputting a fifth control signal by the financial settlement system, if the second commodity purchase price is greater than the alternative payment limit at step g);

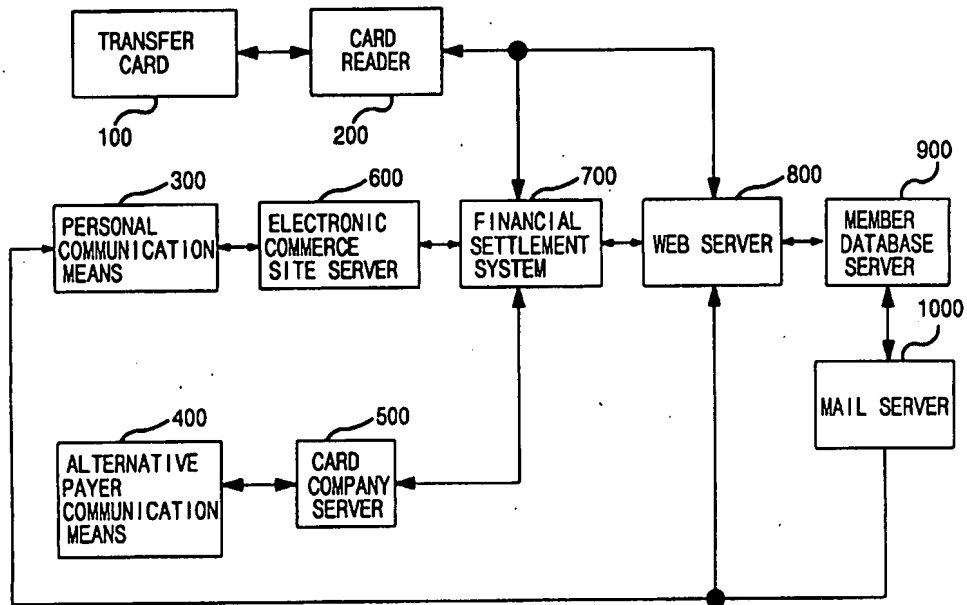
o) receiving the fifth control signal outputted from the financial settlement system through the Web server, storing information on a fact that the second

commodity purchase price exceeds the alternative payment limit in response to the fifth control signal, and outputting an sixth control signal corresponding to the stored information by the member database server; and

- 5 p) receiving the sixth control signal outputted from the member database server and outputting a second email in response to the sixth control signal by the mail server so as to allow the transfer card user to see the information on the fact that the second commodity purchase price exceeds the alternative payment limit when the transfer card user purchases the commodity through the personal communication means.

## Drawings

Fig 1



2/2

Fig 2

